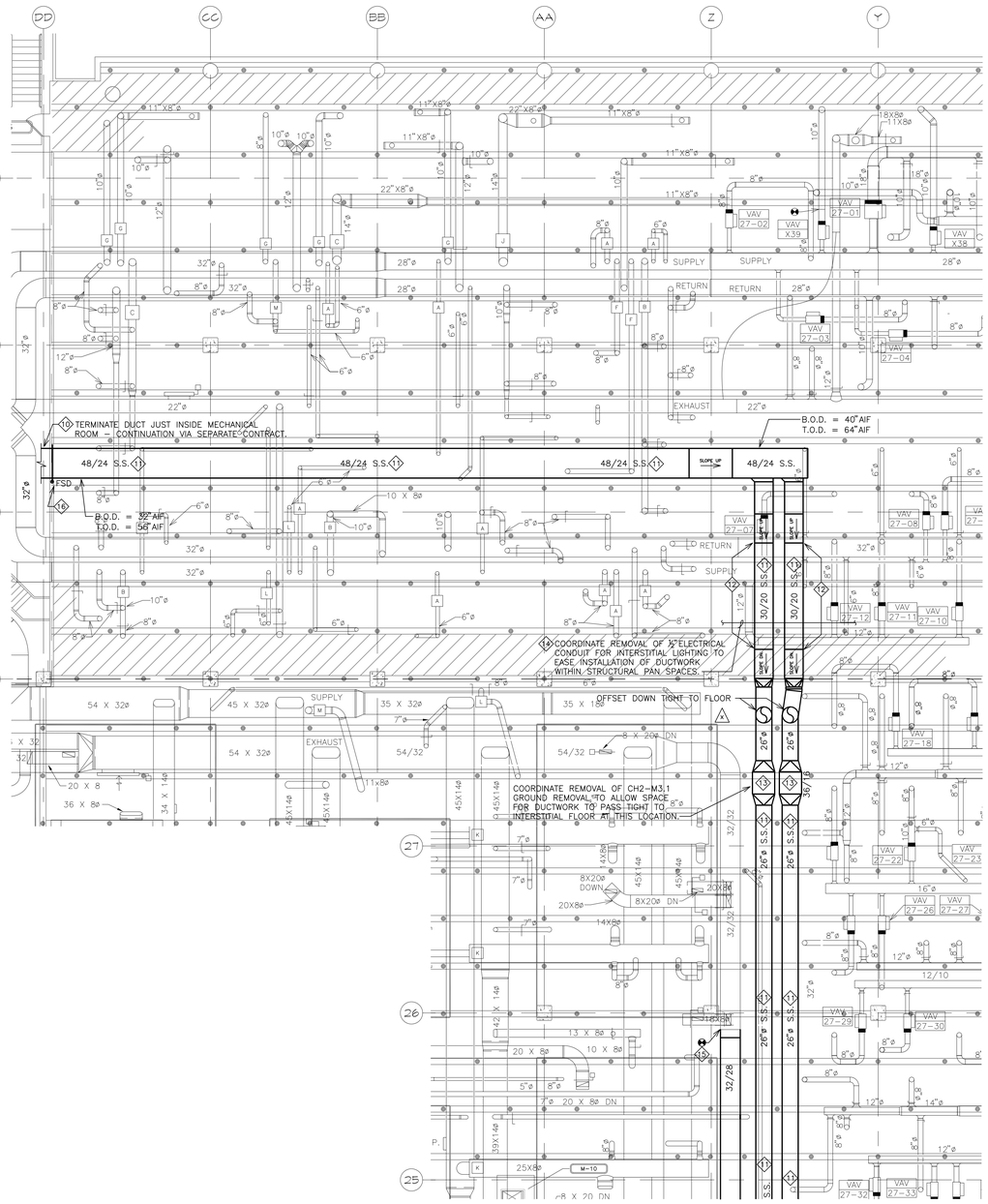
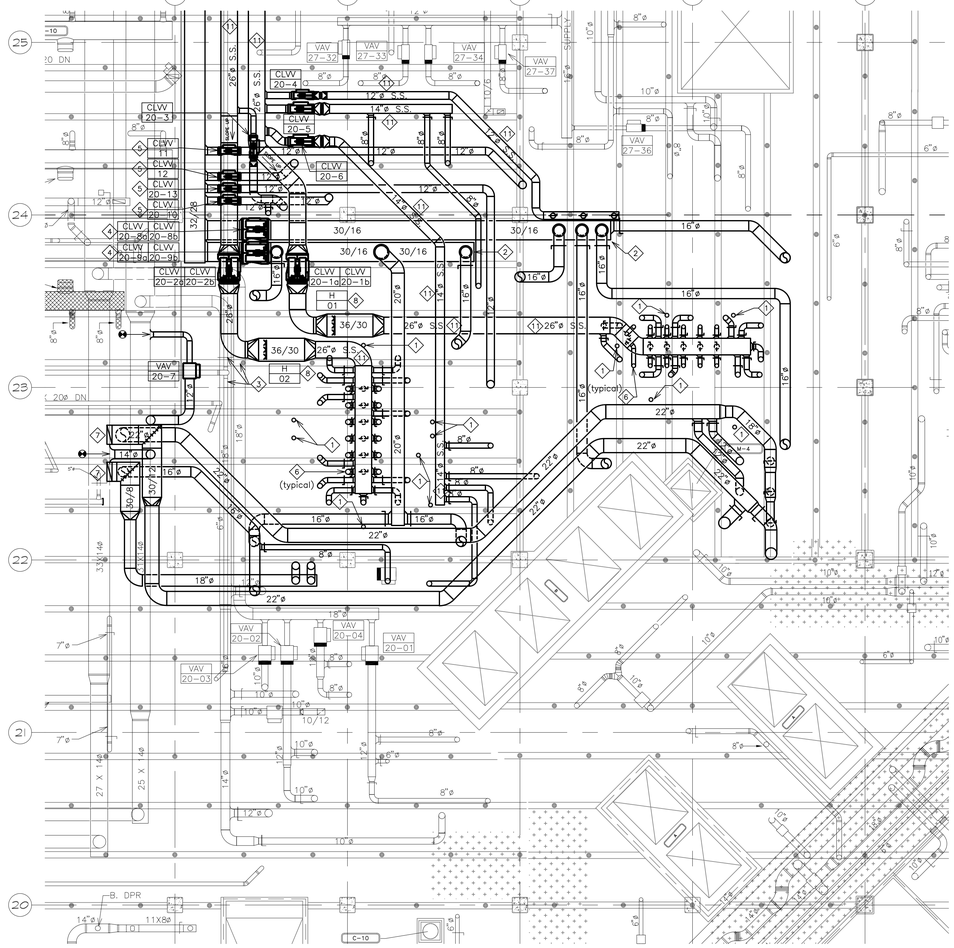


1 SECOND FLOOR INTERSTITIAL MECHANICAL PLAN
1/8"=1'–0"



2 SECOND FLOOR INTERSTITIAL MECHANICAL PLAN
1/8"=1'–0"

KEY NOTES:

1. STRUCTURAL WILL NEED SPACE FOR A NEW VERTICAL SUPPORT FOR CEILING BOOM DIRECTLY BELOW. MECHANICAL CONTRACTOR TO FULLY COORDINATE DUCT LAYOUT WITH ALL STRUCTURAL COMPONENTS REQUIRED FOR BOTH THESE BOOMS, AND SUPPORT OF THE UNISTRUT GRID SYSTEM, BELOW THIS AREA.
2. RETURN DUCT ROUTED TIGHT TO FLOOR AGAINST NORTHERN EDGE OF RAISED INTERSTITIAL FLOOR (refer to structural plans for area lifted above OR's below). SUPPLY DUCT WILL ROUTE OVER TOP OF RETURN DUCT AND RETURN DUCT TAKE–OFFS FROM TOP. BOTH SUPPLY AND RETURN TAKE–OFFS WOULD THEN BE FAIRLY TIGHT TO RAISED INTERSTITIAL FLOOR ON SOUTH SIDE OF THIS RETURN DUCTWORK.
3. REROUTE/TRANSITION EXISTING SUPPLY DUCT TO LOWER ELEVATION AS REQUIRED FOR NEW DUCTWORK TO PASS ABOVE.
4. PROVIDE RETURN DUAL VENTURI AIR VALVES FOR ACTIVE CONTROL OF OPERATING ROOM PRESSURIZATION. RETURN AIR VALVES SHALL FULLY INTEGRATE WITH ROOM PRESSURE MONITOR TO CYCLE OPEN/CLOSED TO HOLD SETPOINT. DAMPER SHALL BE PROVIDED AS A SLOW REACTING DEVICE OR HAVE ADEQUATE DELAY IN THE CONTROL SEQUENCE, ALSO TIED TO DOOR CONTACT SWITCHES, TO AVOID OVER–COMPENSATION FROM ENTRY DOORS OPENING.
5. SAME AS KEY NOTE ABOVE, EXCEPT PROVIDE SINGLE VENTURI AIR VALVE IN ROUND RETURN DUCT FOR PRESSURIZATION CONTROL OF SUPPORT SPACES AND STERILE CORRIDOR.
6. COORDINATE EXACT LOCATION OF LAMINAR SUPPLY DIFFUSER, OR AIR CURTAIN, TO ALIGN WITH OPERATING ROOM CEILING SYSTEM. CONTRACTOR TO COORDINATE CLOSELY WITH ALL TRADES TO TIGHT TOLERANCES NEEDED FOR LITTLE TO NO OFFSET WITHIN LIMITED CEILING SPACE BELOW. SEAL ALL PENETRATIONS AS REQUIRED (typical).
7. SUPPLY/RETURN DUCTWORK DOWN TO COMPUTER ROOM COOLING UNITS BELOW. EXISTING DUCTWORK AND PIPING SHOWN MAY NEED MODIFICATION TO ALLOW FOR FLOOR PENETRATIONS AT THE POINTS INDICATED. MECHANICAL CONTRACTOR TO PROVIDE ALL TRANSITIONS TO EXISTING DUCT AND PIPING SHOWN AT THIS SPECIFIC LOCATION.
8. INSTALL STAINLESS STEEL DRAIN PAN SECTION WITH ACCESS PANEL FOR DUCT MOUNTED HUMIDIFIER, REFER TO DETAIL . ALL CONTRACTORS SHALL NOTE MAINTENANCE ACCESS REQUIRED ON THIS SIDE OF HUMIDIFIER. AN ACCESSIBLE PATH, AND ADEQUATE SERVICE CLEARANCE, WILL BE PROVIDED AT EACH HUMIDIFIER UNIT. COORDINATE WITH ENGINEER AND OWNER.
9. NOT USED.
10. THIS CONTRACT IS TO EXTEND DUCTWORK THROUGH MECHANICAL ROOM WALL WHERE INDICATED. CONNECTION OF DUCT TO NEW AIR HANDLER #20 WILL BE THROUGH ANOTHER PROJECT. THIS CONTRACT IS TO COORDINATE EXACT POINT OF PENETRATION WITH BOTH ENGINEER, AND WITH OTHER CONTRACT G.C. IF APPLICABLE. REFER TO "UPGRADE AHU'S PHASE 2" PROJECT PLANS DATED 8/8/2014. ** SCHEDULED COMPLETION OF THE AHU UPGRADE PROJECT MUST BE COMPLETED PRIOR TO OCCUPANCY OF THE HYBRID OR'S. **
11. ALL SUPPLY DUCTWORK BETWEEN AIR HANDLER AND HYBRID OPERATING ROOM DIFFUSERS, AND SUPPORT SPACES, MUST BE OF WELDED STAINLESS STEEL CONSTRUCTION AND INCLUDE ACCESS DOORS TO ALLOW FULL STERILIZING WASH DOWN IF NECESSARY. REFER TO SPECIFICATIONS FOR FULL REQUIREMENTS OF ALL STAINLESS DUCT.
12. ROUTE DUCTWORK UP WITHIN PAN SPACE BETWEEN JOISTS. FIELD VERIFY LOCATION OF STRUCTURAL BRIDGING TO FABRICATE CUSTOM OFFSET TO FIT BETWEEN EXISTING PIPING AND STRUCTURE ABOVE. ALL MECHANICAL CONTRACTORS WILL BE EXPECTED TO WALK ENTIRE DUCT ROUTE INDICATED PRIOR TO BIDS TO DETERMINE SCOPE OF WORK REQUIRED FOR MATERIAL HANDLING AND FABRICATION.
13. TRANSITION DUCT AS REQUIRED TO PASS BELOW EXISTING ELECTRICAL RACEWAY. COORDINATE WITH ALL OTHER SUBCONTRACTS INVOLVED.
14. ELECTRICAL CONTRACTOR WILL BE REQUIRED TO REMOVE SOME EXISTING LIGHTING CONDUIT, AND RELOCATE LIGHTS TO CORRESPOND WITH NEW DUCTWORK OBSTRUCTIONS. REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
15. COORDINATE OUTAGE REQUIRED FOR CONNECTION INTO EXISTING RETURN DUCT MAIN. DURING PRE–DEMOLITION AIRFLOW READINGS THIS WILL BE ONE DUCT MAIN BRANCH THAT WILL REQUIRE BOTH A AIRFLOW READING TRAVERSE, AND STATIC PRESSURE READING PRIOR TO DEMOLITION. BALANCING CONTRACTOR WILL BE EXPECTED TO FULLY RE–BALANCE ENTIRE AHU #20 SYSTEM PRIOR TO OPERATING ROOMS BEING RE–OCCUPIED. REFER TO BALANCING PLAN 1305–MH03.2 WITHIN THIS BID PACKAGE FOR ALL BALANCING WORK REQUIRED DURING PREMIUM HOURS WHILE UNOCCUPIED.
16. PROVIDE NEW FIRE/SMOKE DAMPER AT MECHANICAL EQUIPMENT ROOM PENETRATION. COORDINATE SEQUENCING OF THIS DAMPER WITH EXISTING SMOKE EVACUATION SEQUENCE. CONTRACTOR MAY BE REQUIRED TO PROVIDE PNUEMATIC–ELECTRIC RELAY SWITCHES TO INTEGRATE WITH CURRENT SMOKE EVACUATION SYSTEM. FIELD VERIFY.

GENERAL NOTES:

A. MECHANICAL CONTRACTOR SHALL REFER TO THE VA MASTER SPECIFICATION MANUAL EDITED FOR THIS PROJECT ALONG WITH ANY APPLICABLE STANDARDS WITHIN THE 2011 HVAC DESIGN GUIDE. ALL REQUIREMENTS OF THOSE MANUALS SHALL BE MAINTAINED IN ADDITION TO ALL NOTES AND DESCRIPTIONS INDICATED WITHIN THESE DRAWINGS. ANY CONFLICTS BETWEEN THOSE DOCUMENTS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR INTERPRETATION.

B. MECHANICAL CONTRACTOR WILL BE RESPONSIBLE TO REVIEW ACCESSIBILITY TO AREAS OUTSIDE THE CONSTRUCTION LIMITS TO DETERMINE APPROXIMATE AMOUNT OF OVERTIME REQUIRED TO PERFORM ALL MECHANICAL WORK INDICATED. COORDINATION OF SCHEDULES WITH ADJACENT DEPARTMENTS AND CLEANING OF ALL DEBRIS AFTER EACH SHIFT SHOULD BE ASSUMED IN THE BASE BID.

C. ANY MAJOR VENTILATION OUTAGES INDICATED ON THESE DRAWINGS SHALL BE SCHEDULED TO BE PERFORMED AFTER NORMAL BUSINESS HOURS OR DURING WEEKEND PERIODS TO MINIMIZE DISRUPTION. VA HOSPITAL FACILITIES WILL REQUIRE A MINIMUM OF FOUR(4) WEEKS NOTICE PRIOR TO ANY SUCH OUTAGE AFFECTING MORE THAN ONE ADJACENT AREA.

D. COORDINATE ALL NEW DUCTWORK ROUTING WITH ALL OTHER TRADES TO INSURE ADEQUATE CLEARANCES FOR PLUMBING, ELECTRICAL CONDUIT, STRUCTURAL SUPPORTS, PIPING, ETC. ANY UNAVOIDABLE CONFLICTS SHALL BE BROUGHT THE THE ATTENTION OF THE ARCHITECT/ENGINEER OF RECORD. PROVIDE ALL OFFSETS AND TRANSITIONS AS REQUIRED FOR A CLEAN INSTALLATION.

E. THE EXACT LOCATION OF EQUIPMENT ROUGH–INS SHALL BE VERIFIED WITH THE STAMPED APPROVED SHOP DRAWINGS PRIOR TO ANY FIELD INSTALLATION.

F. SUPPORT ALL DUCTWORK DIRECTLY TO STRUCTURE. DO NOT SUPPORT ANY DUCTS FROM DUCTWORK, CONDUIT, OR OTHER PIPING ENCOUNTERED.

G. WHERE MECHANICAL SYSTEMS TO REMAIN ARE DAMAGED, OR DISTURBED, DURING THE COURSE OF CONSTRUCTION THE CONTRACTOR WILL BE RESPONSIBLE TO REMOVE DAMAGED PORTIONS AND INSTALL NEW PRODUCTS OF EQUAL QUALITY AND FUNCTIONALITY.

H. ALL EXISTING DUCTWORK THROUGH NEW FIRE RATED WALLS SHALL BE ADEQUATELY FIRE SEALED AS REQUIRED. PIPING PENETRATIONS THROUGH INTERSTITIAL FLOOR SHALL BE DRILLED, OR CUT, BY THE CONTRACTOR AND FIRE SEALED AS REQUIRED.

I. THE MECHANICAL CONTRACTOR WILL BE RESPONSIBLE TO MAINTAIN EACH PROJECT SPACE IN A NEGATIVE PRESSURIZATION AND PROVIDE HEPA FILTRATION UNITS AS REQUIRED BY INFECTION CONTROL. IF NECESSARY CONSULT WITH VA, OR ENGINEER OF RECORD, FOR SUGGESTED METHODS THAT MAY BE UTILIZED TO ELIMINATE CONTAMINATED AIR TO OUTSIDE. VISUAL PRESSURIZATION INDICATORS SHALL BE PROVIDED AT EACH ENTRANCE TO THE CONSTRUCTION ZONE AND MONITORED DAILY TO INSURE A CONSTANT NEGATIVE PRESSURE IS MAINTAINED THROUGHOUT EACH PHASE. COORDINATE PRESSURIZATION PLANNING WITH VA FACILITIES AND INFECTION CONTROL REPRESENTATIVE PRIOR TO EACH CONSTRUCTION PHASE.

J. ALL EXISTING RETURN/EXHAUST DUCTWORK NOT TEMPORARILY CAPPED SHALL BE PROTECTED WITH REMOVABLE FILTER MEDIA TO PROTECT EXISTING DUCT SYSTEMS FROM CONSTRUCTION DEBRIS. ALL NEW DUCTWORK SHALL BE PROTECTED AS REQUIRED AND CLEANED PRIOR TO START–UP. IF CONSTRUCTION DEBRIS IS FOUND INSIDE UNPROTECTED DUCTWORK THAN DUCT CLEANING OF THE ENTIRE SYSTEM SHALL BE PERFORMED AT THE CONTRACTOR'S EXPENSE.

K. PROVIDE EACH NEW SUPPLY DIFFUSER WITH A SINGLE BLADE TAKE–OFF DAMPER WITH QUADRANT LOCKING DEVICE. PERFORM ALL BALANCING OF NEW DIFFUSERS THROUGH THOSE TAKE–OFF DAMPERS. ALL NEW RETURN/EXHAUST GRILLES WILL BE PROVIDED WITH OPPOSED BLADE BALANCING DAMPERS POSITIONED UPSTREAM PAST A MINIMUM OF ONE TRANSITION FOR SOUND ABATEMENT. BALANCING ANY DIFFUSERS/GRILLES USING INTEGRAL DAMPERS WILL NOT BE AN APPROVED METHOD OF BALANCING.

L. THE FOLLOWING NOTES BELOW ARE SPECIFIC TO INFECTION CONTROL AND APPLY TO ALL SUBCONTRACTORS INVOLVED WITH THE PROJECT. ALL CONTRACTORS AND SUBCONTRACTORS SHALL FOLLOW THE INFECTION CONTROL RISK ASSESSMENT (ICRA) AND FGI GUIDELINES THROUGHOUT THE CONSTRUCTION PROCESS. ALL CONTRACTED WORKERS MUST RECEIVE INFORMATION/TRAINING ON INFECTION CONTROL RISKS AND PRACTICES PRIOR TO STARTING ANY ON SITE WORK.

M. ALL BALANCING REPORTS WILL BE MADE AVAILABLE TO VA HOSPITAL INFECTION CONTROL PERSONNEL ON REQUEST. SUBMIT THESE REPORTS ONLY AFTER THEY HAVE BEEN REVIEWED, AND APPROVED, BY THE ENGINEER OF RECORD.

N. ALL WORK OUTSIDE THE PROTECTED PROJECT BOUNDARIES ABOVE EXISTING CEILING SHALL BE COMPLETED WITH CEILINGS REPLACED IN THE SAME DAY UNLESS FULLY COORDINATED THROUGH INFECTION CONTROL. CLEAN AREA TO ORIGINAL CONDITION ON COMPLETION.

O. CEILING TILES WITH VISIBLE WATER DAMAGE SHALL BE SPRAYED TO DISINFECT AND ENCAPSULATE POTENTIAL MOLD PRIOR TO REMOVAL.

P. CONTRACTOR TO INSTALL TEMPORARY BARRIERS FOR EACH PROJECT PHASE AND/OR AREA. THESE BARRIERS SHALL BE COORDINATED WITH VA HOSPITAL AND, IN MOST CASES, CONTAIN SOME FORM OF AIRLOCK VESTIBULE PRIOR TO ENTERING THE CONSTRUCTION AREA.

Q. FLUTTER STRIPS OR AIR PRESSURE GAUGES SHALL BE PROVIDED AT THE ENTRANCES TO EACH CONSTRUCTION AREA. ALL CONTRACTED WORKERS SHALL BE TRAINED TO VISUALLY MONITOR THESE DEVICES FOR ADEQUATE NEGATIVE PRESSURIZATION AS THEY ENTER/EXIT THE CONSTRUCTION AREA. DAILY LOGS SHALL BE KEPT BY THE MECHANICAL CONTRACTOR TO INSURE CONSTANT PRESSURIZATION HAS BEEN MAINTAINED.

R. PORTABLE HEPA FILTER UNITS SHALL BE UTILIZED DIRECTLY OUTSIDE EACH CONSTRUCTION AREA. UNITS WILL BE PROVIDED BY MECHANICAL CONTRACTOR AND MAINTAINED BY MECHANICAL CONTRACTOR.

S. NEGATIVE PRESSURIZATION SHALL BE MAINTAINED IN EACH CONSTRUCTION AREA. IF LOCATED ON AN EXTERIOR WALL FANS SHOULD BE UTILIZED TO EXHAUST AIR DIRECTLY OUT A NEARBY WINDOW, TAKING PRECAUTIONS TO NOT INTERFERE WITH EXISTING BUILDING AIR INTAKES, PUBLIC AREAS, ETC. IF NO EXTERIOR WALL IS AVAILABLE THEN NEGATIVE AIR MACHINES WITH INTERNAL FILTRATION SHALL BE PROVIDED AND CONNECTION TO THE NEAREST EXHAUST OR RETURN DUCT AVAILABLE (CONTACT ENGINEER TO VERIFY EXISTING DUCTWORK CAPACITY PRIOR TO EXHAUST CONNECTION).

T. COORDINATE DEBRIS REMOVAL WITH VA PROJECT MANAGER. IF AN ACCEPTABLE EXIT PATH IS NOT AVAILABLE FROM THE PROJECT SITE THEN AFTER HOURS REMOVAL OF DEMOLISHED MATERIAL WILL BE PERFORMED. COVER ALL CARTS WITH SEALED COVERS TO MAINTAIN DUST CONTROL.

REFERENCE ONLY - N.I.C.

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REVISIONS		DATE

GENERAL NOTES:

GENERAL CONTRACTOR AND/OR ALL SUBCONTRACTORS SHALL FIELD VERIFY ALL DIMENSIONS SHOWN ON THESE PLANS AND SHALL BE RESPONSIBLE FOR VARIATIONS BETWEEN PLAN DIMENSIONS AND ACTUAL FIELD DIMENSIONS. WHERE VARIATIONS ARE FOUND TO OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING PRIOR TO PROCEEDING WITH CONSTRUCTION; NO ADJUSTMENT TO THE WORK WILL BE MADE WITHOUT THE PRIOR APPROVAL OF THE PROJECT ENGINEER.

GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR GENERAL DEMOLITION INCLUIDING REMOVAL OF WALLS, PARTITIONS, DOORS & CEILING & FLOORS. ANY AND ALL CUTTING OF CONCRETE FLOORS, WALLS OR STRUCTURE SHALL BE THE GENERAL CONTRACTOR'S RESPONSIBILITY. CORE DRILLING THROUGH CONCRETE WALLS, FLOORS OR STRUCTURE FOR PIPING OR CONDUIT SHALL BE THE RESPONSIBILITY OF THE SUBCONTRACTOR BY TRADE; FIRESTOPPING OF THESE OPENINGS SHALL BE DONE BY THE RESPECTIVE SUBCONTRACTOR. REMOVAL OF DEBRIS RESULTING FROM DEMOLITION, CUTTING, AND/OR DRILLING IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. PATCHING AND REPAIR OF CONCRETE WALLS, FLOOR, OR STRUCTURE SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR; THIS WILL BE ACCOMPLISHED UPON COMPLETION OF THE INSTALLATION OF ANY AND ALL UTILITIES INSTALLED BY THE VARIOUS SUBCONTRACTORS.

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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly licensed Professional Engineer under the laws of the State of Minnesota.
JASON GOTTWALT PE
Date 03/30/2015 Reg. No. 41360

Drawing Title: SECOND FLOOR INTERSTITIAL MECHANICAL PLANS	Project Title: RENOVATE TO CREATE HYBRID OR - PHASE TWO	Project No. VA Proj # 618–CSH–100 BWBR Proj # 3.201215.00	
Drawing Scale: AS NOTED	Approved: Cynthia Doolittle, Chief, Projects Section	Location: V.A. MEDICAL CENTER ONE VETERANS DRIVE MINNEAPOLIS, MN 55417	Building Number: 70
Plot Scale: 12" = 1'–0"	Approved: Steven Challeen, Director, Engineering	Date: 03/30/2015 Checked: JG/DH Drawn: RF/JG	DRAWING NO. 1305–MH02.2 Dwg. 21 of 44

Office of Facilities Management
Department of Veterans Affairs